What is claimed is:

1. A molding method for encapsulating both sides of a PCB module, the molding method comprising:

preparing a printed circuit board (PCB), the PCB having upper and lower surfaces;

preparing a first and a second wafer level package (WLP);

mounting the first WLP on the upper surface of the PCB and the second WLP on the lower surface of the PCB, thereby forming the PCB module;

placing the PCB module in a mold, the mold including an upper mold and a lower mold, wherein the upper mold includes an upper cavity that encloses the first WLP and an upper gate connected to the upper cavity, and the lower mold includes a lower cavity that encloses the second WLP and a lower gate connected to the lower cavity, and upper and lower inlet blocks defining an inlet connected to the upper gate and the lower gate;

forcing a volume of an epoxy mold compound (EMC) through the inlet into the upper and lower gates and through the upper gate into the upper cavity and through the lower gate into the lower cavity whereby the upper cavity and the lower cavity are filled with EMC substantially simultaneously;

setting the EMC in the upper and lower cavities, the upper and lower gates and the inlet to form an encapsulated PCB module;

separating the encapsulated PCB module from the mold; and

removing the EMC corresponding to the inlet from the encapsulated PCB module.

2. A molding method for encapsulating both sides of a PCB module according to claim 1, further comprising:

removing the EMC corresponding to the upper gate and the lower gate from the encapsulated PCB module.

3. A molding method for encapsulating both sides of a PCB module according to claim 1, wherein

removing the EMC corresponding to the inlet includes

placing the encapsulated PCB module in a jig and

mechanically removing the EMC corresponding to the inlet from the encapsulated PCB module.

4. A molding method for encapsulating both sides of a PCB module according to claim 2, wherein

removing the EMC corresponding to the upper gate and the lower gate includes

placing the encapsulated PCB module in a jig and

mechanically removing the EMC corresponding to the upper gate and the lower gate from the encapsulated PCB module.

5. A molding method for encapsulating both sides of a PCB module, the molding method comprising:

preparing a printed circuit board (PCB), the PCB having upper and lower primary surfaces;

attaching an upper film layer to a peripheral portion of the upper primary surface and a lower film layer to a peripheral portion of the lower primary surface;

preparing a first and a second wafer level package (WLP);

mounting the first WLP on the upper primary surface of the PCB and the second WLP on the lower primary surface of the PCB, thereby forming the PCB module;

placing the PCB module in a mold, the mold including an upper mold and a lower mold, wherein the upper mold includes an upper cavity that encloses the first WLP and an upper gate connected to the upper cavity, the upper gate arranged over the upper film layer, and the lower mold includes a lower cavity that encloses the second WLP and a lower gate connected to the lower cavity, the lower gate arranged over the lower film layer, and an inlet block defining an inlet connected to the upper gate and the lower gate;

forcing a volume of an epoxy mold compound (EMC) through the inlet into the upper and lower gates and through the upper gate into the upper cavity and through the lower gate into the lower cavity whereby the upper cavity and the lower cavity are filled with EMC substantially simultaneously;

setting the EMC in the upper and lower cavities, the upper and lower gates and the inlet to form an encapsulated PCB module;

separating the encapsulated PCB module from the mold; and

removing the EMC corresponding to the inlet from the encapsulated PCB module.

6. A molding method for encapsulating both sides of a PCB module according to claim 5, wherein:

the film layers are adhesive tapes.

7. A molding method for encapsulating both sides of a PCB module according to claim 5, further comprising:

removing the EMC corresponding to the upper gate and the lower gate from the encapsulated PCB module by removing the upper and lower film layers.

8. A molding method for encapsulating both sides of a PCB module according to claim 5, wherein

removing the EMC corresponding to the inlet includes

placing the encapsulated PCB module in a jig and

mechanically removing the EMC corresponding to the inlet from the encapsulated PCB module.

9. A molding method for encapsulating both sides of a PCB module according to claim 7, wherein

removing the EMC corresponding to the upper gate and the lower gate includes

placing the encapsulated PCB module in a jig and

mechanically removing the upper and lower film layers, thereby removing the EMC corresponding to the upper gate and the lower gate from the encapsulated PCB module.

10. A molding method for encapsulating both sides of a PCB module according to claim 1, wherein:

the PCB includes a main portion and a peripheral portion, the main portion having a thickness T_1 and the peripheral portion having a thickness T_2, the thicknesses T_1 and T_2 satisfying the relationship $T_1 > T_2$; and

the upper gate and the lower gate are formed over the peripheral portion.

11. A molding method for encapsulating both sides of a PCB module according to claim 10, wherein:

the EMC in the upper gate has a thickness T_U and the EMC in the lower gate has a thickness T_L, and further wherein $T_2 + T_U + T_L$ is approximately equal to T_1.

12. A molding method for encapsulating both sides of a PCB module according to claim 12, wherein:

T_U and T_L are substantially equal.

13. A mold for encapsulating both sides of a PCB module with two wafer level packages mounted on a PCB, the mold comprising:

an upper mold including an upper cavity, the upper cavity arranged and configured for receiving at least one wafer level package (WLP) mounted on an upper surface of the PCB and an upper gate connected to the upper cavity through which an epoxy molding compound (EMC) may be forced into the upper cavity; and

a lower mold including a lower cavity, the lower cavity arranged and configured for receiving at least one WLP mounted on a lower surface of the PCB and a lower gate connected to the lower cavity through which an EMC may be forced into the lower cavity;

wherein the upper mold and lower mold cooperate to enclose the PCB module within the mold.

14. A mold for encapsulating both sides of a PCB module with two wafer level packages mounted on a PCB according to claim 13, further comprising:

upper and lower inlet forming blocks, wherein the upper inlet forming block may be positioned adjacent an outer side of the upper mold and the lower inlet forming block may be positioned adjacent an outer side of the lower mold, the inlet forming blocks cooperating to form an inlet through which EMC may be forced into both the upper gate and the lower gate.

15. A mold for encapsulating both sides of a PCB module with two wafer level packages mounted on a PCB according to claim 14, wherein:

the upper mold, lower mold, upper inlet forming block and lower inlet forming block are independently moveable.

16. A molding method for encapsulating both sides of a PCB module using a mold according to claim 14, the molding method comprising:

preparing the PCB module, the PCB module including a printed circuit board (PCB) having a first WLP mounted on an upper surface and a second WLP mounted on a lower surface;

placing the PCB module between the upper mold and a lower mold and closing the mold to seat the upper against the upper surface and seat the lower mold against the lower surface;

forcing a volume of an epoxy mold compound (EMC) through the inlet into the upper and lower gates and through the upper gate into the upper cavity and through the lower gate into the lower cavity whereby the upper cavity and the lower cavity are filled with EMC substantially simultaneously;

setting the EMC in the upper and lower cavities, the upper and lower gates and the inlet to form an encapsulated PCB module;

removing the encapsulated PCB module from the mold; and

removing excess EMC from the encapsulated PCB module.